

WHAT IS CLAIMED IS:

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1. A chemical sensor comprises a plurality of particles each of which surface is attached with substantially the same number of biochemical probes to be attached with at least one kind of substances of interest in a specimen, and a planar baseplate with a plurality of sections arranged separately from each other and each of which is fixed with said particles.
 2. The chemical sensor according to claim 1, wherein one layer of said plurality of particles is fixed in each of said sections.
 3. The chemical sensor according to claim 1, wherein the sections are defined by a deposition film of a non-gold metal arranged in a lattice on the surface of the baseplate, and a gold deposition film formed over the surface of said baseplate including the region of said metal deposition film.
 4. The chemical sensor according to claim 3, wherein said metal deposition film comprises one of Ti, Cu, and Co, and said plurality of sections are formed on each region where said gold deposition film is not overlapped with said metal deposition film.
 5. The chemical sensor according to claim 3, wherein said metal deposition film comprises one of Ag and Cr, and said plurality of sections are formed on each region where said gold deposition film overlaps with said metal deposition film.

6. The chemical sensor according to claim 3, wherein density of said particles in each of said sections is substantially the same.

7. The chemical sensor according to claim 3, wherein one layer of said plurality of particles is fixed in each of said sections.

8. The chemical sensors according to claim 3, wherein said probes of different types are caught in each of said plurality of particles are fixed on said sections.

9. A biochemical testing system using the biochemical sensor according to claim 3.

10. The chemical sensor according to claim 3, wherein the particles are made of glass, silicon, or polymer materials.

11. The chemical sensor according to claim 3, wherein a dimension of the particles is limited by a sensitivity of equipment for testing the particles and a desired number of the probes to be attached to each of the particles.

12. A method for testing at least one substance of interest in a specimen with biochemical probes, comprising:

attaching the substance of interest to the probes;

attaching the probes to each surface of a plurality of particles;

providing a planar baseplate with a plurality of sections defined by a

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deposition film of a non-gold metal arranged in a lattice on one surface of the baseplate, and a gold deposition film formed over the whole surface of the baseplate including regions covered by said metal deposition film;

fixing the particles to the sections; and

5 testing the substance of interest by testing the particles on the sections.

13. The method for testing substance of interest in a specimen with biochemical probes according to claim 12, whereby the probes are attached to particles before the particles are fixed to the sections of the baseplate.

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14. The method for testing substance of interest in a specimen with biochemical probes according to claim 13, whereby the substance of interest are attached to the probes after the particles are fixed to the sections.

15 15. The method for testing substance of interest in a specimen with biochemical probes according to claim 12, whereby the particle testing step includes sending a light to the baseplate and receiving light scattered from the baseplate.

20 16. The method for testing substance of interest in a specimen with biochemical probes according to claim 12, further comprising labeling the particles with a fluorescent substance, whereby the particle testing step includes receiving the fluorescent light emitted from the particles.

25 17. The method for testing substance of interest in a specimen with

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biochemical probes according to claim 12, whereby each different type of the probes are attached in a different section.

18. The method for testing substance of interest in a specimen with biochemical probes according to claim 12, whereby only one type of the probes are attached in each section with a different density.

19. A method for marketing a chemical sensor for a testing substance of interest in a specimen with biochemical probes, comprising:

providing a chemical sensor having the probes which can be attached with a substance of interest in the specimen and are attached to each surface of a plurality of particles, the particles are fixed to sections on a planar baseplate which are defined by a deposition film of a non-gold metal arranged in a lattice and a gold deposition film formed over the whole surface of the baseplate including the region of said metal deposition film; and

marketing said chemical sensor together with an electronic medium storing data of a number of said particles fixed per unit area in each of said sections.

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